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## Echocardiography in rheumatoid arthritis (RA)

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The results of numerous clinical studies confirm the presence of cardiac abnormalities in patients with rheumatoid arthritis. Their authors emphasize the utility of echocardiography in detecting heart muscle damage, pericardial involvement and valvular heart disease in RA. Bacon and Gibson, using one-dimentional imaging mode, found mitral valve changes in 6.9% of their patients and ascribed it to the systemic spread of the disease. Prakash, Nomeir and MacDonald noted mitral valve defects in 25, 30 and 10% of RA individuals, respectively. Using two-dimensional technique Mody discovered the same disorder in 13% of his RA cases and additionally aortic valve insufficiency in a small percentage of this subset. Toumanidis et al. revealed mitral valve and aortic cusps derangements in about 24% of their RA patients. In Wislowska's study mitral valve insufficiency was present in 8.6% of RA patients and occurred more frequently in them than in the controls. One must take into consideration, however, that mitral valve prolaps is observed in up 18% of healthy individuals, and therefore can not be regarded an RA characteristic.

Echocardiography also revealed discrepancies in heart muscle structure and function between RA patients and the control groups. Wisłowska found left ventricular mass in RA individuals significantly greater then in the controls. The same concerned intraventricular septum end diastolic thickness, LV posterior wall end diastolic thickness and the aortic root diameter. The ejection fraction was significantly lower and isovolumetric relaxation time (IVRT) and deceleration time significantly longer in RA patients compared to the controls. These findings are in accordance with Alpaslan, Di Franco and Levendoglu's results, that revealed significant differences in LV diastolic function (peak E velocity, E velocity/A velocity ratio, IVRT, [myocardial performance index MPI] and transmural flow propagation velocity [TFPV]) between RA group and the control subjects. The results of these studies indicate to the presence of subclinical myocardial involvement in RA, which can be ascribed to nonspecific myocarditis observed in this disease. Nevertheless different other risk factors for cardiac muscle impairment are usually present in RA individuals and therefore it is uncertain, whether heart pathology in rheumatoid arthritis is due to inflammation itself or is secondary to other process or to drug use in this disease.

Although pericardial effusion is considered the most common heart complication in RA, Wisłowska et al. observed it only on 4% of cases in echocardiography image. Pathologists find it in about 30% of RA cases post mortem, but clinical manifestation of pericarditis is rare in this disease. It's life-threatening complications such as constrictive pericarditis or tamponade were reported in very few RA cases, to date.

## Biography

Małgorzata Wisłowska is Professor of Rheumatology, Internal Medicine and Rehabilitation and the head of Rheumatology and Internal Medicine Clinic of Central Clinical Hospital of Ministry of the Interior and Administration in Warsaw. She has completed her Ph.D at the age of 23 years from Medical Academy in Warsaw, she received her MD in 1986. She has completed her undergraduate medical training at Guy Hospital, St. Thomas Hospital in London, Charite University Hospital in Berlin. She was assistant professor 1999-2009, professor from 2009. She has published more than 150 scientific publications. Professor Wisłowska's main interest are changes in the heart in rheumatology diseases.

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